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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/487,287	01/19/2000	Andrea De Toffol	8907-9021	2986

7590 11/20/2002

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EXAMINER
FERGUSON, LAWRENCE D

ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 11/20/2002

13

Please find below and/or attached an Office communication concerning this application or proceeding.

A 513

Office Action Summary	Application No.	Applicant(s)	
	09/487,287	DE TOFFOL ET AL.	
	Examiner	Art Unit	
	Lawrence D Ferguson	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 16* is/are rejected.

7)☒ Claim(s) *15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment mailed August 16, 2002. Claims 1 was amended and claims 1-16 are pending.

Claim Rejections – 35 USC § 103(a)

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashima et al. (U.S. 5,442,523) in view of EP 0724181.

4. Kashima discloses a backlighting device for use with display panels that has a light conducting plate and a light source provided in proximity to the end portion of one or both sides of the light conducting plate (column 2, lines 16-20) where backlight devices of displays are analogous to luminous signs. The panel of Kashima can be made by molding or casting (column 6, lines 48-49) having light diffusing capability and all surfaces of the light conducting plate being covered with a light reflecting plate or film except at least the end portion of the side and on the exit face (column 2, lines 20-26). The reference discloses single lamp edge lighting, dual lamp edge lighting and edge

lighting (column 2, lines 30-48) comprising barium sulfate (column 3, lines 9-10) which can be added to the conducting layer with light diffusing areas (column 3, line 32). Kashima discloses the light conducting plate made of polymethyl methacrylate PMMA having a thickness of 2mm (column 7, lines 64-66) and which are used as the thermoplastic layer with a commercial polylcarbonate sheet 360μm thick (column 10, line 33) where polycarbonate is known to be a thermoplastic material. The reference discloses enhancing means being entirely transparent and comprising at least one sheet (column 14, lines 8-9 and lines 34-44) with an area greater than 600 cm^2. Figure 1(a) shows a composite panel having more than one edge that is used to light the referenced invention. Kashima discloses the method of shaping the sheets including molding and casting (column 6, lines 46-49). A panel wherein the composite is prepared by coextrusion of the base sheet of thermoplastic polymer and of the diffusing layer of thermoplastic polymer or by compression molding of the thermoplastic polymer layer containing barium sulfate obtained by extrusion or casting is a product by process limitation. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. The base sheet of Kashima is capable of containing particles of substances diffusing light, both of polymeric and inorganic

type. Kashima does not disclose the diffusing light layer thickness, or amount by weight or particle size of barium sulfate.

EP '181 teaches a composite panel with a light reflective sheet in a back light unit under a transparent light guide plate with improved luminance (abstract) with a light diffusing sheet (page 4, line 17) having an average particle size of the inorganic filler of 0.1 to 7 μm and is in the range of 100 to 300 parts by weight, where the inorganic filler is barium sulfate (page 6, lines 20-31) and the amount of additive is 0.01 to 5 parts by weight (page 6, lines 50-51). EP '181 teaches the light diffusion sheet having a thickness of 113 um (page 11, lines 14 and 54-55). Kashima and EP '181 are analogous art because they are from the same field of backlighting devices. It would have been obvious to one of ordinary skill in the art to include the thickness of the light diffusing layer, the amount by weight and average particle size of barium sulfate in the composite panel of Kashima because EP '181 teaches the sizes are conventional within the art. The thickness, amount used and particle size each directly affect how much light is being diffused. Therefore each of these features are optimizable. One of ordinary skill would understand how to adjust the amounts and particle size of barium sulfate based on the amount of light desired to be diffused.

5. Claim 15 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's remarks to 35 USC 112, second paragraph have overcome the rejection of claims 1-16 due to amendment of claim 1 by removing the indefinite claim language.

Applicant's arguments of rejection under 35 USC 103(a) as unpatentable over Kashima et al. (U.S. 5,442,523) in view of EP 0724181 have been considered but are unpersuasive. Applicant argues Kashima does not teach a light diffusing layer and does not teach a thermoplastic composite panel comprising a light diffusing layer of thermoplastic material containing the claimed barium sulphate. This is not true because Kashima discloses a panel having light diffusing capability (column 2, lines 20-26) comprising barium sulfate (column 3, lines 9-10) which can be added to the layer with light diffusing areas (column 3, line 32). Applicant argues Kashima does not disclose a thermoplastic composition panel. Kashima discloses display panels in column 2, lines 16-17. The panel is made of light conductive plate which is transparent and has a light diffusing layer. See column 7 where the reference states that the light conducting plate is made of PMMA. See column 8, line 7 where Kashima states light diffusing film is placed on light conducting panel. This directly reads on applicant's claim 1 which has a transparent thermoplastic conducting light and a diffusing layer. Barium sulfate is identified in column 3 as the material to be used in the light diffusing layer. Although titanium white is used in the reference, it is taught as an equivalent to barium sulfate. One of ordinary skill in the art would expect the two to behave the same since they have

both been identified as equivalents. Applicant points to screen printing the light diffusing material and notes one would not want to use the paint with titanium white because Applicant has already compared titanium and barium sulfate in his examples. Applicant's point concerning the comparison in his specification is well taken. However this does not prove that one of ordinary skill in the art would not be able to choose between the two. It also does not show that Kashima teaches away from barium sulfate. Applicant argues that Kashima's materials have higher refractive indexes and BaSO4 has better diffusing qualities. Applicant claims none of these features. Additionally, they are features which are inherent. Kashima is not only directed to TiO2 but to BaSO4 as well. Thus Kashima does not teach away but includes barium sulfate. It is immaterial as to whether Kashima refers to BaSO4 also. Applicant argues there is no motivation to substitute TiO2 with BaSO4. There is no substitution necessary and examiner has not suggested substitution since both (among others) are indicated as light diffusing materials. Applicant further argues that the instant display panels provide intense and homogenous lighting. There is no evidence that Kashima cannot provide the same. Applicant argues Kashima does not suggest or teach a thermoplastic panel containing barium sulfate in the amounts recited in the present Claim 1, much less that such panel would possess the advantages illustrated in the examples contained in the present specification. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed.

Cir. 1986). EP '181 teaches a composite panel with a light reflective sheet in a back light unit with a light diffusing sheet having an average particle size of the inorganic filler of 0.1 to 7 micrometers and is in the range of 100 to 300 parts by weight, where the inorganic filler is barium sulfate (page 6, lines 20-31) and the amount of additive is 0.01 to 5 parts by weight (page 6, lines 50-51). Applicant argues Kashima has titanium dioxide and barium sulphate as equivalents. Kashima teaches that barium sulphate is used, which meets the claim limitation of the instant application. The indication of another component is irrelevant because Kashima discloses that barium sulphate is not an improvement over the art of composite panels with diffusing layers. Applicant argues Kashima does not disclose that when using a thermoplastic layer/panel, the inclusion of barium sulphate is more advantageous than that of other inorganic compounds, such as titanium dioxide. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant is arguing factors that are not present in the instantly cited claims.

Applicant argues EP '181 reference does not correct the deficiencies noted in Kashima since EP '181 is based on Kashima. Since Examiner has maintained the Kashima rejection, EP '181 is also maintained for reasons of record. Applicant argues EP '181 does not contain any inorganic powder (e.g., barium sulphate). This is not true because EP '181 teaches the use of inorganic filler being barium sulfate on page 6, lines 20-31). Applicant argues that one of ordinary skill in the art would not consider making changes to the invention of EP '181 or Kashima. This argument does not

overcome the rejection of Kashima in view of EP '181 because Applicant has not shown that the prior art cannot show these features or modifications.

Applicant's arguments of rejection under 35 USC 103(a) as unpatentable over Ishii et al. (U.S. 5,710,856) in view of EP 0724181 have been carefully considered and is overcome due to Applicant's arguments. The diffusing layer of Ishii lacks finely powdery inorganic filler and does not contain barium sulfate.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is (703) 305-9978. The examiner can normally be reached on Monday through Friday 8:30 AM – 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. Please allow the examiner twenty-four hours to return your call.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.

LDF

Lawrence D. Ferguson
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Cynthia H. Kelly